



PTO/SB/08A (02-03)  
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1

of 2

### Complete if Known

Application Number	10/717,742
Filing Date	November 20, 2003
First Named Inventor	Thomas Wayne Ray et al.
Art Unit	3672
Examiner Name	Unassigned

Attorney Docket Number 1301-1160

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
~		US- 5,169,887	12-08-1992	Snow et al.	
		US- 5,385,984	01-31-1995	Blohm et al.	
		US- 5,552,469	09-03-1996	Beall et al.	
		US- 5,578,672	11-26-1996	Beall et al.	
		US- 5,698,624	12-16-1997	Beall et al.	
		US- 5,721,306	02-24-1998	Tsipursky et al.	
		US- 5,760,121	06-02-1998	Beall et al.	
		US- 5,804,613	09-08-1998	Beall et al.	
		US- 5,830,528	11-03-1998	Beall et al.	
		US- 5,844,032	12-01-1998	Serrano et al.	
		US- 5,849,830	12-15-1998	Tsipursky et al.	
		US- 5,877,248	03-02-1999	Beall et al.	
		US- 5,880,197	03-09-1999	Beall et al.	
		US- 5,952,095	09-14-1999	Beall et al.	
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		US- 6,057,396	05-02-2000	Lan et al.	
~		US- 6,083,559	07-04-2000	Beall et al.	

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
~		EP 1 211 282 A1	06-05-2002	Herrmann et al.		
~		DE 100 59 237 A1	06-20-2002	Herrmann et al.		
~		WO 02/079308 A1	10-10-2002	Bremser et al.		

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		US- 6,090,734	07-18-2000	Tsipursky et al.	
		US- 6,107,387	08-22-2000	Kaylo et al.	
		US- 6,124,365	09-26-2000	Lan et al.	
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		US- 6,228,903	05-08-2001	Beall et al.	
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		US- 6,251,980	06-26-2001	Lan et al.	
		US- 6,262,162	07-17-2001	Lan et al.	
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		US- 6,399,690	06-04-2002	Lan et al.	
		US- 6,376,591	04-23-2002	Lan et al.	
		US- 6,387,996	05-14-2002	Lan et al.	
		US- 6,391,449	05-21-2002	Lan et al.	
		US- 6,407,155	06-18-2002	Qian et al.	
		US- 6,461,423	10-08-2002	Beall et al.	
		US- 6,462,122	10-08-2002	Qian et al.	

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				Examiner Name		Unassigned	
Sheet	1	of	11	Attorney Docket Number	1301-1160		

#### OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS

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<i>~</i>		BUC SLAY et al.; "What Engineers Need to Know About Seals and Sealing Technology"; Energy Rubber Group - 2003 Fall Technical Symposium; September 16, 2003; pages 1-24.	
		ALEXANDER GALEZEWSKI et al.; "Thermosetting Cellular Elastomers Reinforced with Carbon Black and Silica Nanoparticles"; Journal of Elastomers and Plastics; Vol. 33; January 2001; pages 13-33.	
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		"Nanomaterials - A Big Market Potential"; Chemical Week; October 16, 2002; pages 17-20.	
		"Organic/Inorganic Hybrid Polymer/Clay Nanocomposites"; NASA Tech Briefs; December 2003; page 21.	
		Prof. E.P. GIANNELIS; "Polymer Nanocomposites"; Cornell University; page 1-2.	
		SIBY VARGHESE et al.; "Rubber Nanocomposites via Solutions and Melt Intercalation"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 43A; October 14-17, 2003; pages 1-24.	
		L.A. GOETTLER et al.; "Layered Silicate Nanocomposites Comprising Rubbery Polymer Matrices"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 41; October 14-17, 2003; 9 pages.	
<i>~</i>		SUSMITA SADHU et al.; "Acrylonitrile Butadiene Rubber Based Nanocomposites: Preparation and Mechanical Properties"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 42; October 14-17, 2003; pages 1-12.	

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<i>M</i>		ABHIJIT BANDYOPADHYAY et al.; "Synthesis and Characterization of Acrylic Rubber/Silica Nanocomposites by Sol-Gel Technique"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 43; October 14-17, 2003; pages 1-20.	
		LIMING DAI et al.; "Polymer and Aligned Carbon Nanotube Nanocomposites"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 39; October 14-17, 2003; pages 1-14.	
		ARNAB SARKAR et al.; "An Analysis of the Microscopic Deformation Field in Rubbers Filled with Nono-Particles"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 40; October 14-17, 2003; 17 pages.	
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		SUPRAKAS SINHA RAY et al.; "New Polylactide/Layered Silicate Nanocomposites"; Macromolecules; January 15, 2002; pages 3104-3110.	
		BO-HYUN KIM et al.; "Nanocomposite of Polyaniline and Na <sup>+</sup> - Montmorillonite Clay"; Macromolecules; October 10, 2001; pages 1419-1423.	
		JOO YOUNG NAM et al.; "Crystallization Behavior and Morphology of Biodegradable Polylactide/Layered Silicate Nanocomposite"; ACS Publications; July 27, 2003; 1 page.	
		PETER C. LeBARON et al.; "Clay Nanolayer Reinforcement of a Silicone Elastomer"; ACS Publications; June 26, 2001; 1 page.	
		CHRISTOPHE DANUMAH et al.; "Novel Polymer Nanocomposites from Templated Mesostructured Inorganic Materials"; Macromolecules; April 14, 2003; pages 8208-8209.	
<i>M</i>		HORNG-LONG TYAN et al.; "Thermally and Mechanically Enhanced Clay/Polyimide Nanocomposite via Reactive Organoclay"; ACS Publications; May 11, 1999; 1 page.	

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<i>pw</i>		HORNG-LONG TYAN et al.; "Effect of Reactivity of Organics-Modified Montmorillonite on the Thermal and Mechanical Properties of Montmorillonite/Polyimide Nanocomposites"; ACS Publications; October 24, 2000; 1 page.			
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		FRANCIS W. STARR et al.; "Molecular Dynamics Simulation of a Polymer Melt with a Nanoscopic Particle"; Macromolecules; December 3, 2001; pages 4481-4492.			
		YUQIN LI et al.; "A differential Scanning Calorimetry Study of the Assembly of Hexadecylamine Molecules in the Nanoscale Confined Space of Silicate Galleries"; ACS Publications; December 21, 2001; 1 page.			
		Q.H. ZENG et al.; "Molecular Dynamics Simulation of Organic-Inorganic Nanocomposites: Layering Behavior and Interlayer Structure of Organoclays"; ACS Publications; October 6, 2003; 1 page.			

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		"Nanoclays for Plastics"; Elementis Specialties; 1 page.	
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		DONALD BANSLEBAN; "Nanostructured Materials: Commercial Applications and Horizons"; POSS Nanotechnology Conference 2002; September 2002; 1 page.	
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		BAUDILIO TEJERINA et al.; "POSS-Versatile Materials for Scientific & Technological Applications"; POSS Nanotechnology Conference 2002; September 2002; 1 page.	
		JOHN KIEFFER; "Multiscale Simulation of POSS Nano-Assembly"; POSS Nanotechnology Conference 2002; September 2002; 1 page.	
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		STEPHANIE L. WUNDER et al.; "POSS Materials as Platforms for Synthesis of Novel Electrolytes for Lithium Batteries"; POSS Nanotechnology Conference 2002; September 2002; 1 page.	
<i>DR</i>		LELAND VANE; "Membrane Technology"; POSS Nanotechnology Conference 2002; September 2002; 1 page.	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	10/717,742
				Filing Date	November 20, 2003
				First Named Inventor	Thomas Wayne Ray et al.
				Art Unit	3672
				Examiner Name	Unassigned
Sheet	6	of	11	Attorney Docket Number	1301-1160

<b>OTHER PRIOR ART-NON-PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
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Examiner Signature	<i>[Signature]</i>	Date Considered	6/7/05
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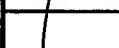
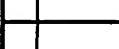
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		ADAM STRACHOTA; "POSS Reinforced Epoxy Systems"; POSS Nanotechnology Conference 2002; September 2002; 1 page.		
		V. BELLAS et al.; "First Results on the Lithographic Evaluation of New POSS Containing 157nm Photoresists"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.		
		JUNCHAO HUANG et al.; "Preparation and Properties of Polyimide-POSS Nanocomposites"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.		

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		PATRICK RUTH; "Effects on Processing by Drop-in Modifiers in Nano-Composite Polymers"; POSS Nanotechnology Conference 2002; September 2002; 10 pages.	
		BRIAN MOORE et al.; "POSS Polystyrene Copolymers Reactivity and Control"; POSS Nanotechnology Conference 2002; September 2002; 12 pages.	
		MICHAEL T. HAY et al.; "Synthesis and Characterization of a Novel Iron (III) Silsesquioxane Compound"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.	
		JOSEPH LICHTENHAN; "Introduction and Welcome"; POSS Nanotechnology Conference 2002; September 2002; 2 pages.	
		DONALD BANSLEBEN; "Nanostructured Materials: Commercial Applications and Horizons"; POSS Nanotechnology Conference 2002; September 2002; 15 pages.	
		ROHIT SHUKLA; "California's Nanotechnology Republic"; POSS Nanotechnology Conference 2002; September 2002; 8 pages.	
		SHASHI JASTY; "R&D Markets for POSS Nanomaterials"; POSS Nanotechnology Conference 2002; September 2002; 13 pages.	
		SHAWN PHILLIPS; "AFRL POSS Nanomaterials"; POSS Nanotechnology Conference 2002; September 2002; 20 pages.	
		BAUDILIO TEJERINA; "POSS - Versatile Materials for Scientific & Technological Applications"; POSS Nanotechnology Conference 2002; September 2002; 14 pages.	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	10/717,742
				Filing Date	November 20, 2003
				First Named Inventor	Thomas Wayne Ray et al.
				Art Unit	3672
				Examiner Name	Unassigned
Sheet	9	of	11	Attorney Docket Number	1301-1160

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<i>✓</i>		JOHN KIEFFER; "Multiscale Simulation of POSS Nano-Assembly"; POSS Nanotechnology Conference 2002; September 2002; 19 pages.			
		ERIK ABBENHUIS; "Homogeneous and Heterogeneous Catalysis with POSS"; POSS Nanotechnology Conference 2002; September 2002; 17 pages.			
		STEPHANIE L. WUNDER; "POSS Materials as Platforms for Synthesis of Novel Electrolytes for Lithium Batteries"; POSS Nanotechnology Conference 2002; September 2002; 22 pages.			
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				Application Number 10/717,742
				Filing Date November 20, 2003
				First Named Inventor Thomas Wayne Ray et al.
				Art Unit 3672
				Examiner Name Unassigned
Sheet	10	of	11	Attorney Docket Number 1301-1160

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Sheet

11

of

11

Application Number

10/717,742

Filing Date

November 20, 2003

First Named Inventor

Thomas Wayne Ray et al.

Art Unit

3672

Examiner Name

Unassigned

Attorney Docket Number

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